

Amendments to the Claims

1. (Previously Presented): A method of forming a local interconnect, comprising:

D² providing a bulk semiconductor substrate having a first conductivity type background region, an adjacent second conductivity type background region and a boundary extending therebetween;

forming an isolation trench within the bulk semiconductor substrate laterally centered over and along the boundary;

depositing a first trench isolation material over the bulk semiconductor substrate and to within the isolation trench;

chemically etching the first trench isolation material effective to form a line trench within the first trench isolation material at least a portion of which is laterally centered within the isolation trench and laterally centered over the boundary;

depositing conductive material within the line trench and recessing it within the line trench after depositing it;

depositing a second trench isolation material the same as the first trench isolation material over the first trench isolation material, over the recessed conductive material within the isolation trench and within the line trench; and

removing at least some first and second trench isolation material from the semiconductor substrate in at least one common removing step.

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2. (Original): The method of claim 1 wherein the at least one common removing step comprises CMP.

3. (Previously Presented): The method of claim 1 wherein the depositing conductive material within the line trench comprises depositing at least two different composition conductive materials to within the line trench.

4. (Previously Presented): The method of claim 1 wherein the line trench in the first trench isolation material does not have a width which extends to active area substrate material in at least one cross section, and further comprising after the removing:

forming insulative material over the first and second trench isolation materials and over the conductive material;

etching a contact opening into the insulative material which bridges over and between said active area substrate material and said conductive material; and

forming a conductor within the contact opening which electrically connects said conductive material with said active area substrate material.

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5. (Previously Presented): A method of forming a local interconnect, comprising:

forming an isolation trench within a semiconductor substrate;
depositing a first trench isolation material over the semiconductor substrate and to within the isolation trench;

removing first trench isolation material effective to form a line trench within the first trench isolation material into a desired local interconnect configuration;

forming conductive material within the line trench;

depositing a second trench isolation material over the first trench isolation material, over the conductive material within the isolation trench and within the line trench; and

removing at least some first and second trench isolation material from the semiconductor substrate in at least one common removing step.

6. (Previously Presented): The method of claim 5 wherein the semiconductor substrate comprises a bulk monocrystalline substrate, and the isolation trench is formed in bulk monocrystalline substrate material.

7. (Original): The method of claim 5 wherein the first and second trench isolation materials are the same in composition.

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8. (Original): The method of claim 5 wherein the first and second trench isolation materials are different in composition.

9. (Original): The method of claim 5 wherein the removing of the first trench isolation material to form the line trench comprises chemical etching.

10. (Original): The method of claim 5 wherein the at least one common removing step comprises CMP.

11. (Original): The method of claim 5 wherein the forming conductive material within the line trench comprises depositing conductive material and recessing it within the line trench after the depositing.

12. (Original): The method of claim 5 wherein the forming conductive material within the line trench comprises depositing at least two different composition conductive materials to within the line trench.

Claims 13-16 (Canceled).

13. ~~17.~~ (Previously Presented): A method of forming a local interconnect, comprising:

forming an isolation trench within semiconductive material of a semiconductor substrate, the semiconductive material having an outer surface;

depositing a trench isolation material over the semiconductor substrate and to within the isolation trench;

D2 Cont. removing trench isolation material from within the isolation trench effective to form a line trench within the trench isolation material into a desired local interconnect configuration, the line trench having a base which is lower than the outer surface;

forming an oxidation resistant liner material to within the line trench to form an oxidation resistant lining within the line trench; and

depositing conductive material to within the line trench on the oxidation resistant lining.

14. ~~18.~~ ^{**13**} (Original): The method of claim ~~17~~ wherein the oxidation resistant liner material is insulative.

15. ~~19.~~ ^{**13**} (Original): The method of claim ~~17~~ wherein the oxidation resistant liner material is conductive.

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¹³
~~16~~·~~20~~. (Original): The method of claim ~~17~~ wherein the removing forms at least a portion of the line trench to be laterally centered between sidewalls of the isolation trench in at least one cross section.

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¹⁷·~~21~~. (Original): The method of claim ~~17~~ comprising covering the conductive material with insulative material the same as the trench isolation material.

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¹⁸·~~22~~. (Original): The method of claim ~~21~~ wherein at least some of the insulative material is received within the line trench and on the conductive material.

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~~19. 23.~~ (Previously Presented): A method of forming a local interconnect, comprising:

forming an isolation trench within semiconductive material of a semiconductor substrate, the semiconductive material having an outer surface, the isolation trench having opposing longitudinal sidewalls in at least one cross section;

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cont. depositing a trench isolation material over the semiconductor substrate and to within the isolation trench;

removing trench isolation material from within the isolation trench effective to form a line trench within the trench isolation material into a desired local interconnect configuration which is laterally centered between the opposing isolation trench sidewalls in the one cross section, the line trench having a base which is lower than the outer surface;

forming conductive material to within the line trench; and

after forming the conductive material, forming insulative material within the line trench below the outer surface.

~~20.~~ ¹⁹
~~24.~~ (Original): The method of claim ~~23~~ wherein the forming conductive material within the line trench comprises depositing conductive material and recessing it within the line trench after the depositing.

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21. ~~25.~~ (Original): The method of claim ~~28~~ wherein the forming conductive material within the line trench comprises depositing at least two different composition conductive materials to within the line trench.

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22. ~~26.~~ (Previously Presented): The method of claim ~~28~~ wherein the semiconductor substrate comprises a bulk monocrystalline substrate, and the isolation trench is formed in bulk monocrystalline substrate material.

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23. ~~27.~~ (Currently Amended): A method of forming a local interconnect, comprising:

providing a bulk semiconductor substrate having a first conductivity type background region, an adjacent second conductivity type background region and a boundary extending therebetween, the bulk semiconductor substrate having an outer surface;

forming an isolation trench within semiconductive material of the bulk semiconductor substrate over and along the boundary;

depositing a trench isolation material over the bulk semiconductor substrate and to within the isolation trench effective to over fill the isolation trench;

removing trench isolation material from within the isolation trench effective to form a line trench within the trench isolation material into a desired local interconnect configuration, the line trench having a base which is lower than the outer surface;

forming conductive material to within the line trench; and

after forming the conductive material, forming insulative material within the line trench below the outer surface.

24. ~~28.~~ (Original): The method of claim **23** ~~27~~ comprising forming the isolation trench to be laterally centered over the boundary.

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²⁵~~29~~. (Original): The method of claim ²³~~27~~ comprising forming the line trench to be laterally centered over the boundary.

²⁶~~30~~. (Original): The method of claim ²³~~27~~ comprising forming the isolation trench and the line trench to be laterally centered over the boundary. .

²⁷~~31~~. (Original): The method of claim ²³~~27~~ comprising forming the line trench to be laterally centered between longitudinal sidewalls of the isolation trench in at least one cross section.

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^{28.}~~32.~~ (Currently Amended): A method of forming a local interconnect comprising:

overfilling an isolation trench formed relative to an outer surface of semiconductive material of a semiconductor substrate with trench isolation material;

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^{cont.} etching trench isolation material from within the isolation trench elevationally lower than the outer surface effective to form a line trench into a desired local interconnect line configuration ~~into~~ within the trench isolation material, the line trench in the trench isolation material not having a width which extends to active area substrate material in at least one cross section, the line trench etched into the trench isolation material having an insulative base which is lower than the outer surface of the semiconductive material; and

forming conductive material over the semiconductor substrate which at least partially fills the trench.

^{29.}
~~36.~~ (Previously Presented): The method of claim ²⁸~~32~~ wherein the semiconductor substrate comprises a bulk monocrystalline substrate, and the isolation trench is formed in bulk monocrystalline substrate material.

^{30.}
~~34.~~ (Original): The method of claim ²⁸~~32~~ wherein the forming conductive material within the line trench comprises depositing conductive material and recessing it within the line trench after the depositing.



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~~35.~~ (Original): The method of claim ~~32~~ wherein the forming conductive material within the line trench comprises depositing at least two different composition conductive materials to within the line trench.

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~~36.~~ (Previously Presented): A method of forming a local interconnect comprising:

etching a line trench into a desired line configuration within trench isolation material formed relative to an outer surface of semiconductive material of a semiconductor substrate, the line trench in the trench isolation material not having a width which extends to active area substrate material in at least one cross section, the line trench having an insulative base which is lower than the outer surface;

forming conductive material over the semiconductor substrate which at least partially fills the line trench;

forming insulative material over the trench isolation material and over the conductive material and to within the isolation trench;

etching a contact opening into the insulative material which bridges over and between said active area substrate material and said conductive material; and

forming a conductor within the contact opening which electrically connects said conductive material with said active area substrate material.

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³³~~37~~. (Original): The method of claim ³²~~36~~ wherein the forming conductive material within the line trench comprises depositing conductive material and recessing it within the line trench after the depositing.

³⁴~~38~~. (Original): The method of claim ³²~~36~~ wherein the forming conductive material within the line trench comprises depositing at least two different composition conductive materials to within the line trench.

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Cmt.
³⁵~~39~~. (Previously Presented): The method of claim ³²~~36~~ wherein the semiconductor substrate comprises a bulk monocrystalline substrate, and the isolation trench is formed in bulk monocrystalline substrate material.

Claims 40-48 (Canceled).

³⁶~~49~~. (New): The method of claim ¹³~~17~~ wherein the depositing is effective to overfill the line trench.

³⁷~~50~~. (New): The method of claim ¹⁹~~28~~ wherein the depositing is effective to overfill the line trench.

³⁸~~51~~. (New): The method of claim ²³~~27~~ wherein the depositing is effective to overfill the line trench.

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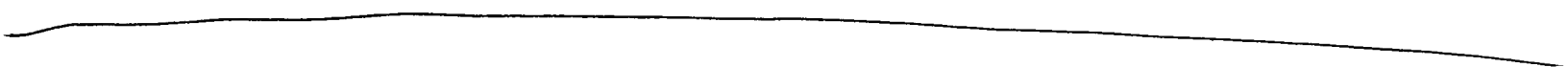
~~52.~~

(New):

The method of claim ²⁸~~32~~ wherein the line trench formed

in the trench isolation material does not have a width which extends to active area substrate material in any cross section.

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